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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,230	03/25/2004	Roy D. Cideciyan	HITG.062A(0528)	6703

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Chambliss, Bahner & Stophel, P.C.
Two Union Square
1000 Tallan Building
Chattanooga, TN 37402

EXAMINER	
NEGRON, DANIELL L	
ART UNIT	PAPER NUMBER
2651	

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/809,230	CIDECIYAN ET AL.	
	Examiner	Art Unit	
	Daniell L. Negrón	2651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,6,13,15,17,23,24,26,28,34,35,37,39,45 and 46* is/are rejected.

7)☒ Claim(s) *3,5,7-11,14,16,18-22,25,27,29-33,36,38 and 40-44* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered (see page 6, lines 7-12).

Claim Objections

2. Claims 3, 5, 7, 14, 16, 18, 25, 27, 29, 36, 38, and 40 are objected to because of the following informalities: The definitions of the following functions, $f(a_{k+1})$, $f(a_{k-1})$, $f(a_{k+2})$, and $f(a_{k-2})$ have not been provided in the claims. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 4, 6, 13, 15, 17, 23, 24, 26, 28, 34, 35, 37, 39, 45, and 46 are rejected under 35 U.S.C. 102(b) as being anticipated by Dolivo et al U.S. Patent No. 5,060,088.

Regarding claim 1, Dolivo et al disclose a read channel comprising an equalizer (21) configured to equalize a digital signal to provide equalized reproduced signals, a Viterbi detector (25) capable of receiving the equalized reproduced signals and converting the reproduced signals

into a digital output signal indicative of data stored on a recording medium, wherein the equalizer is implemented using a coefficient learning circuit that adaptively updates (i.e., adjusts) coefficients for the equalizer based upon a cosine function (column 4, line 25 through column 5, line 58).

Regarding claim 2, Dolivo et al disclose a read channel wherein the coefficient learning circuit adjusts coefficients using a tap coefficient update equation having a first parameter, k, for modifying a magnitude response (column 3, line 53 through column 4, line 24).

Regarding claims 4 and 6, Dolivo et al disclose a read channel wherein the coefficient learning circuit adjust coefficients using a tap coefficient update equation having a second parameter, j, for modifying a phase response (column 5, lines 49-59).

Regarding claim 12, Dolivo et al disclose a waveform equalizer that equalizer that equalizes a waveform of a reproduced signal obtained by reproducing marks and non-marks recorded on a recording medium, comprising a delay element (61) that delays a propagation of the reproduced signal, a plurality of multipliers (57, 67) that multiply predetermined coefficients by the reproduction signal and the delayed signal from the delay element, a coefficient learning circuit that adaptively updates the predetermined coefficients for each of the plurality of multipliers (column 6, lines 34-40), and an adder (63) that adds outputs from the plurality of multipliers, wherein the coefficient learning circuit adaptively updates coefficients for the equalizer based upon a cosine function (column 6, line 17 through column 7, line 5).

Regarding claims 13, 15, and 17, claims 13, 15, and 17 have limitations similar to those treated in the above rejections of claims 2, 4, and 6, and are met by the reference as discussed above.

Regarding claims 23, 24, 26, 28, 34, 35, 37, 39, 45, and 46, claims 23, 24, 26, 28, 34, 35, 37, 39, 45, and 46 have limitations similar to those treated in the above rejections of claims 1, 2, 4, and 6, and are met by the reference as discussed above.

Allowable Subject Matter

5. Claims 3, 5, 7-11, 14, 16, 18-22, 25, 27, 29-33, 36, 38, and 40-44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior Art

Behrens et al U.S. Patent No. 5,999,355 is cited as of interest for disclosure of an adaptive equalizer circuit using a least mean square algorithm.

Shimoda et al U.S. Patent No. 6,122,120 and Goldston et al U.S. Patent No. 6,292,511 are cited as of interest for disclosure of a read channel comprising a cosine equalizer.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniell L. Negrón whose telephone number is 571-272-7559. The examiner can normally be reached on Monday-Friday (8:30am-5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne R. Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DLN
March 2, 2006

WAYNE YOUNG
SUPERVISORY PATENT EXAMINER